

# ABSTRACT OF THE DISCLOSURE

An authentication system has a direction measuring unit which measures, in a time domain, the direction vector of a pen with respect to a tablet. First and second vector generating units generate, in a time domain, first and second vectors including, as components thereof, the direction vector of the pen when first and second entities write a predetermined pattern on the tablet with the pen. A DP matching unit performs a DP matching process to match time scales of the first and second vectors in order to minimize an accumulated value of differences between the first and second vectors, the differences including differences between the direction vector included in the first vector and the direction vector included in the second vector. A decision unit determines that the first entity and the second entity are identical to or different from each other based on whether the accumulated value of differences between the first vector and the second vector in the DP matching process less or greater than a predetermined threshold.